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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,003	04/10/2001	Martin Lavoie	1561-68	9571

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EXAMINER
HOSSAIN, TANIM M

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 08/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.
2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
     closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-23* is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-23* is/are rejected.
7) ☒ Claim(s) *4,5,9,10,14,15,19 and 20* is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on *10 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☒ None of:
    1.☒ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 4, 5, 9, 14, 15, and 19 are objected to under 37 CFR 1.75(c) as being in

improper form because a multiple dependent claim should refer to parent claims in the

alternative only. See MPEP § 608.01(n). Accordingly, the claims 10 and 20 have not

been further treated on the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims are rejected under 35 U.S.C. 102(e) as being anticipated by Addink (U.S.

6,042,477).

As per claim 1, Addink teaches a computer network configured to define and

update data structures within a shared computer-generated environment, comprising a

plurality of user-computer terminals having display means, storage means, processing

means and network connection means, wherein said storage means stores said data

structures and program instructions (column 2, lines 55-58; where the game object is a

data structure, inherently stored by storage means on the first computer, and the sending

constitutes the stored program instructions.); said processing means is configurable by

said program instructions to perform the steps of equipping a first of said data structures

with continuous data at a first of said user-computer terminals (column 2, lines 62-67); at

a second of said user-computer terminals, predicting said continuous data of said first

data structure (column 6, line 61 – column 7, line 2); comparing said predicted

continuous data with continuous data of a second of said data structures stored at said

second user-computer terminals (column 5, line 56-67; column 6, lines 26-30; where a

computer receives a packet and a time-stamp from another computer and predicts the

position of the other computer's object through this information. How close the

prediction is, is compared with further continuous data.); and updating said first data

structures at said second user-computer terminal in response to said comparison (column

3, lines 53-65).

As per claim 2, Addink teaches a computer network according to claim 1, wherein

said data structures stored in said storage means are known as duplication masters or

duplicas or a combination thereof (column 2, lines 55-58; where the game object is a data

structure, inherently stored by storage means on the first computer, and the sending

constitutes the stored program instructions. Naming them as duplication masters or

duplicas are patentably indistinct.).

As per claim 3, Addink teaches a computer network according to claim 1, wherein

said program instructions stored in said storage means include a duplication manager

(column 4, lines 45-48; where the other target planes represent duplicas, where the use of

a duplication manager is implied.).

As per claim 4, Addink teaches the method of claim 1, wherein said first of said data structures at said first of said user computer terminals is duplicated and stored as a duplica at said second of said user computer terminals (column 4, lines 45-48).

As per claim 5, Addink teaches the method of claim 1, wherein said first of said data structures stored as a duplica at said second of said user computer terminals is updated by said first of said data structures stored at said first of said user-computer terminals (column 4, lines 45-52).

As per claim 6, Addink teaches a computer network according to claim 1, wherein said continuous data is preferably, but not exclusively nor necessarily, positional data expressed as Cartesian coordinates within a three-dimensional environment (column 4, lines 53-65).

As per claim 8, Addink teaches a computer network according to claim 1, wherein said comparison determines a distance between said first and second of said data structures, also known as relevance (column 5, lines 7-9; column 6, lines 56-65; where the discussion of the nearest targets implies the use of distances between planes, and the use of vectors and vector calculations implies the determination of distances between planes.).

As per claim 9, Addink teaches a computer network according to claim 1, wherein said relevance determines the frequency according to which said first data structure stored as a duplica at said second user-computer terminal is updated (column 5, lines 6-9).

As per claim 11, Addink teaches a method of updating data structures within a computer-generated environment shared between users connected via computer terminals

connected to a network, wherein a user's computer terminal performs the steps of equipping a data structure with continuous data (column 2, lines 62-67); predicting said continuous data of said data structure (column 6, line 61 – column 7, line 2); comparing said predicted continuous data with continuous data of a second data structure stored at a second user-computer terminal (column 5, line 56-67; column 6, lines 26-30; where a computer receives a packet and a time-stamp from another computer and predicts the position of the other computer's object through this information. How close the prediction is, is compared with further continuous data.); and updating said data structure in response to said comparison (column 3, lines 53-65).

Claims 12-16, 18, and 19 are rejected on the same bases as claims 2-6, 8, and 9, respectively, as claims 12-16, 18, and 19 are methods of implementing claims 2-6, 8, and 9, respectively.

Claim 21 is rejected on the same basis as claim 11, as claim 21 is a medium for implementing the method of claim 11.

As per claim 22, Addink teaches a computer-readable memory system having computer-readable data stored therein, comprising one or a plurality of duplicate masters (column 4, lines 45-48; where the other target planes represent duplicas, where the user's plane is the duplicate master.); one or a plurality of duplicas (column 4, lines 45-48); and an application including a duplication manager which requires objects to be shared over a network (figure 2; in conjunction with column 4, lines 45-48; where the existence of an application is inherent.).

Claim 23 is rejected on the same basis as claim 21, as claim 23 is a memory system for implementing the method of claim 21.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Addink in view of Singhal's "Effective Remote Modeling in Large Scale Distributed

Simulation and Visualization Environments," as discussed in applicant's specification.

As per claim 7, Addink teaches a computer network according to claim 1, but

does not specifically teach the use of Position History Based Dead Reckoning to predict

the position of a shared object. Singhal teaches the use of PHBDR as a prediction tool, as

discussed in the applicant's specification. It would have been obvious to one of ordinary

skill in the art at the time of the invention to teach the inclusion of PHBDR to predict the

position of shared objects, as taught by Singhal, in the system of Addink. The motivation

for doing so exists because both Singhal and Addink are from the same field of endeavor,

namely the improvement of graphical simulations. Armed with the teaching of Singhal,

Addink's invention becomes more efficient, as there would be less delay in updating the

position of shared objects, its merits also discussed in applicant's specification.

Claim 17 is rejected on the same basis as claim 7, as claim 17 is a method for

implementing claim 7.

Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Addink in view of Li (U.S. 6,701,316).

As per claim 10, Addink teaches a computer network according to claim 9, but does not specifically teach the dynamic updating of data structures as a function of available bandwidth, represented by a quality factor. Li teaches the dynamic updating of web content based on how much bandwidth is available, with the calculation of a quality factor to determine bandwidth availability (column 4, lines 4-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to teach the inclusion of the ability to dynamically update web content by use of a bandwidth quality factor, as taught by Li, in the system of Addink. The motivation for doing so exists because both Li and Addink are from the same field of endeavor, namely the improvement of the reception of content transmitted over a network, leading to a more convenient and efficient experience. In a situation in Addink's invention where there is available bandwidth to further improve the rate of updating, Li's teaching of dynamically updating the transmitted content automatically, based on the available bandwidth, would dramatically improve the performance of Addink's invention. Likewise, if there exists a situation in Addink's invention where there is not enough bandwidth to support frequent updates, applying the teaching of Li in the system of Addink's invention would prevent packet loss, leading to a more efficient gaming experience.

Claim 20 is rejected on the same basis as claim 10, as claim 20 is a method for implementing claim 10.
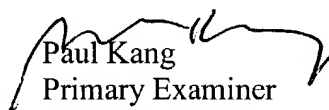
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanim Hossain whose telephone number is 703/605-1228. The examiner can normally be reached on 8:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 703/305-4003. The fax phone number for the organization where this application or proceeding is assigned is 703/872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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